Figure 1

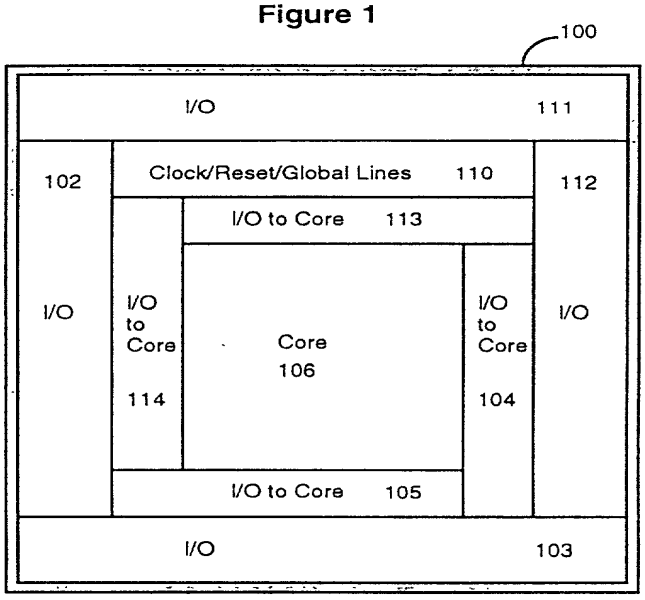

100
I/O
111
102
Clock/Reset/Global Lines
110
112
I/O to Core
113
I/O
I/O to Core
114
Core
106
I/O to Core
104
I/O
I/O to Core
105
I/O
103

Figure 2A

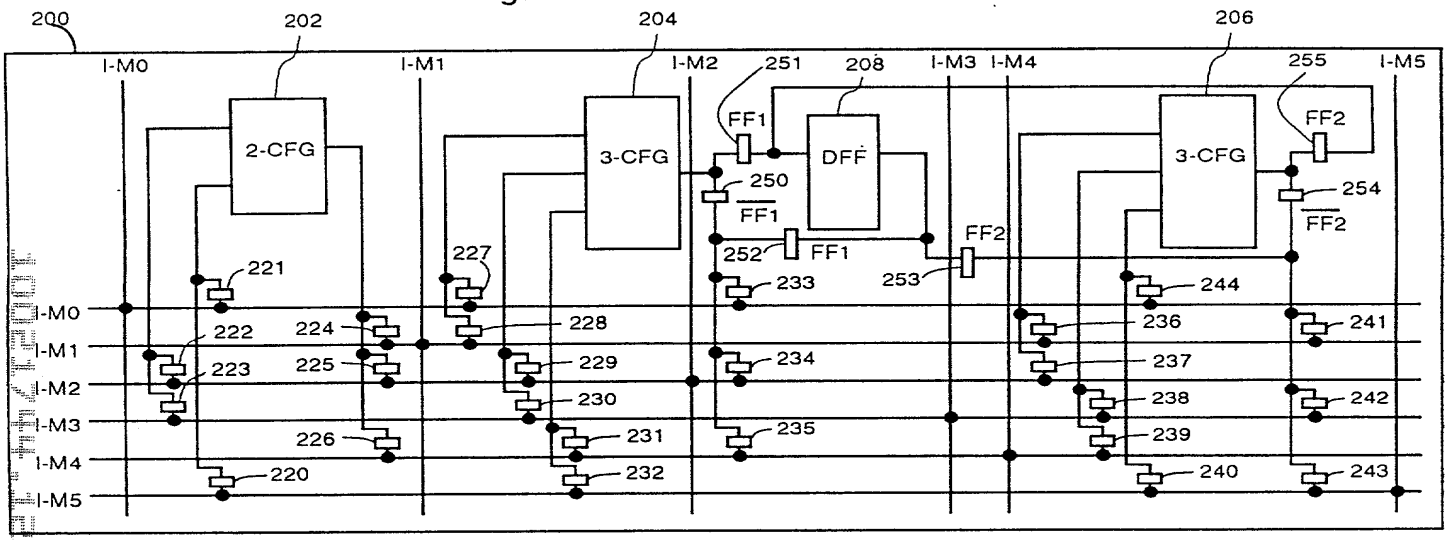


Figure 2B

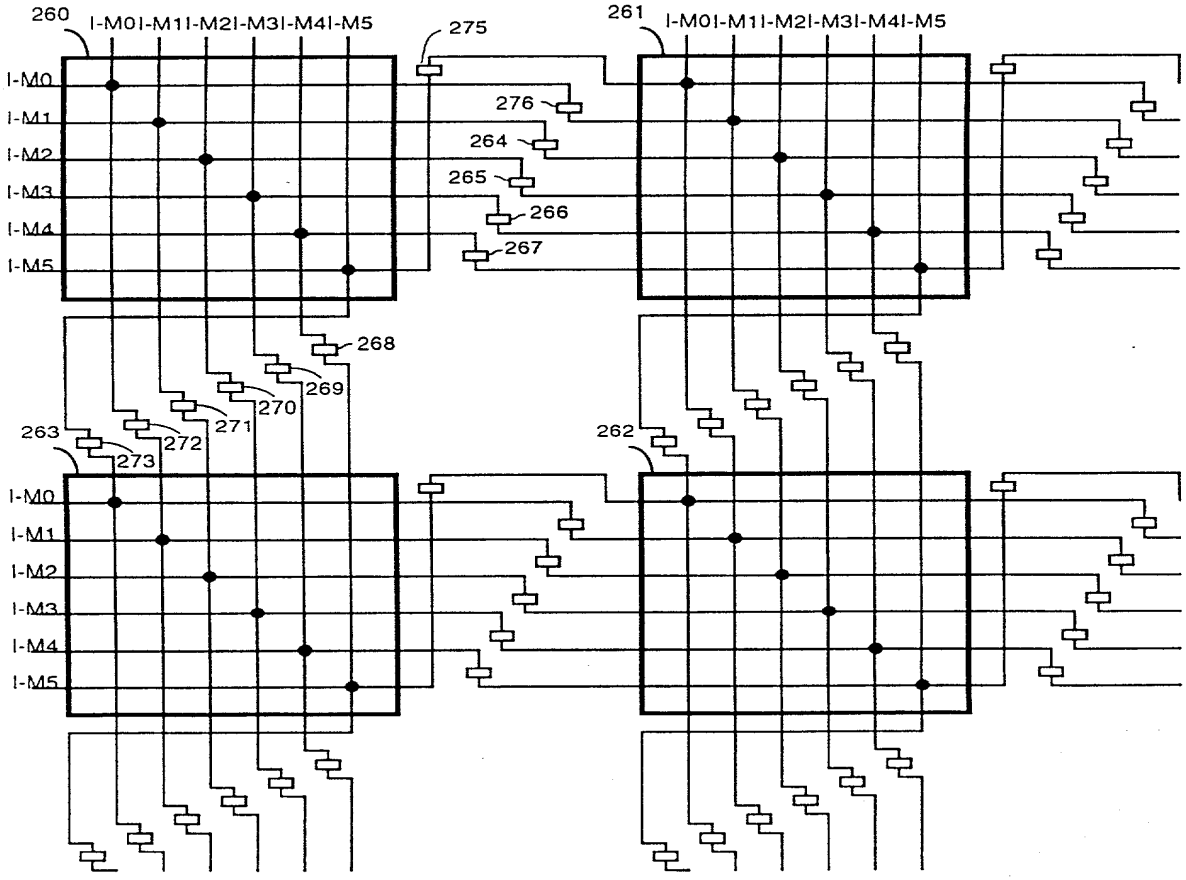


Figure 3A

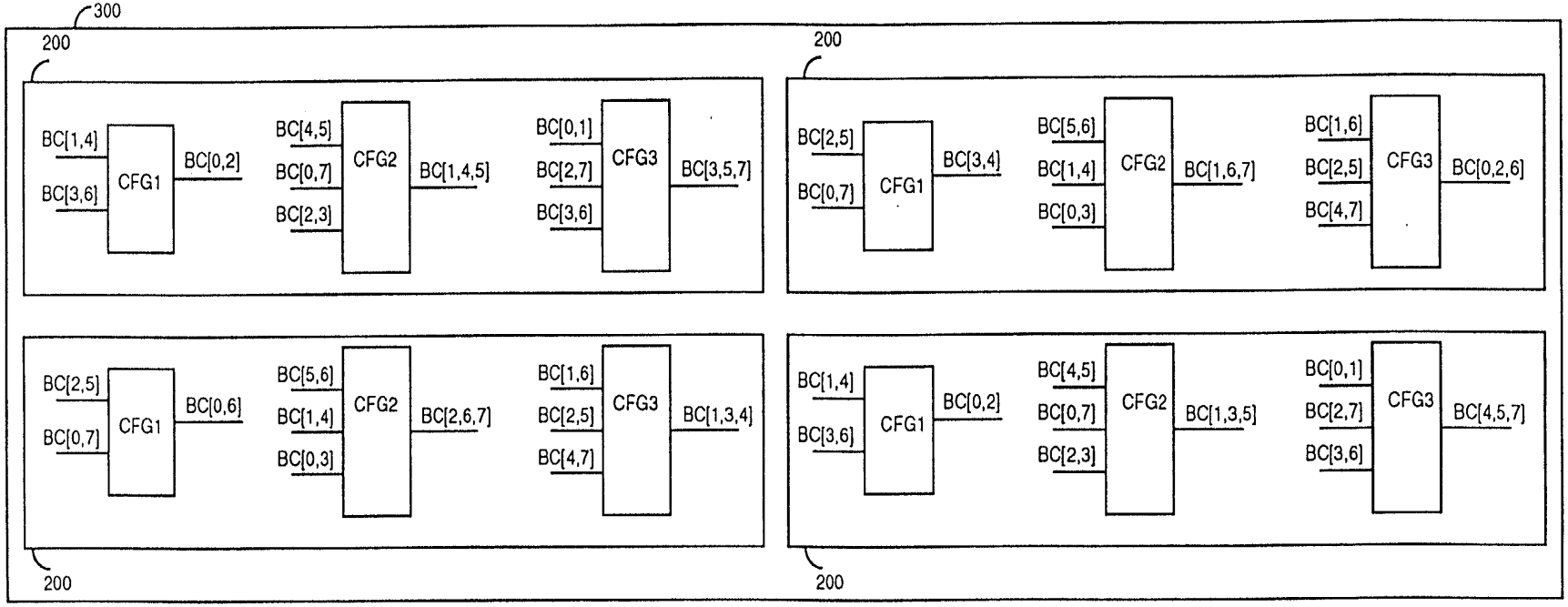

300
200
BC[1,4]
BC[3,6]
CFG1
BC[0,2]
BC[4,5]
BC[0,7]
BC[2,3]
CFG2
BC[1,4,5]
BC[0,1]
BC[2,7]
BC[3,6]
CFG3
BC[3,5,7]
200
BC[2,5]
BC[0,7]
CFG1
BC[3,4]
BC[5,6]
BC[1,4]
BC[0,3]
CFG2
BC[1,6,7]
BC[1,6]
BC[2,5]
BC[4,7]
CFG3
BC[0,2,6]
BC[2,5]
BC[0,7]
CFG1
BC[0,6]
BC[5,6]
BC[1,4]
BC[0,3]
CFG2
BC[2,6,7]
BC[1,6]
BC[2,5]
BC[4,7]
CFG3
BC[1,3,4]
200
BC[1,4]
BC[3,6]
CFG1
BC[0,2]
BC[4,5]
BC[0,7]
BC[2,3]
CFG2
BC[1,3,5]
BC[0,1]
BC[2,7]
BC[3,6]
CFG3
BC[4,5,7]
200

Figure 3B

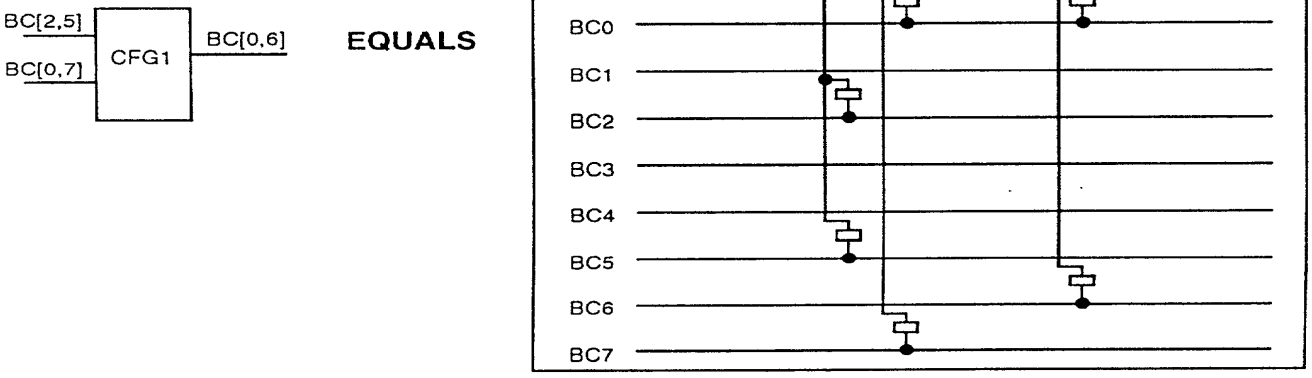

BC[2,5]
BC[0,7]
CFG1
BC[0,6]
EQUALS
BC[2,5]
BC[0,7]
CFG1
BC[0,6]
BC0
BC1
BC2
BC3
BC4
BC5
BC6
BC7

Figure 4A

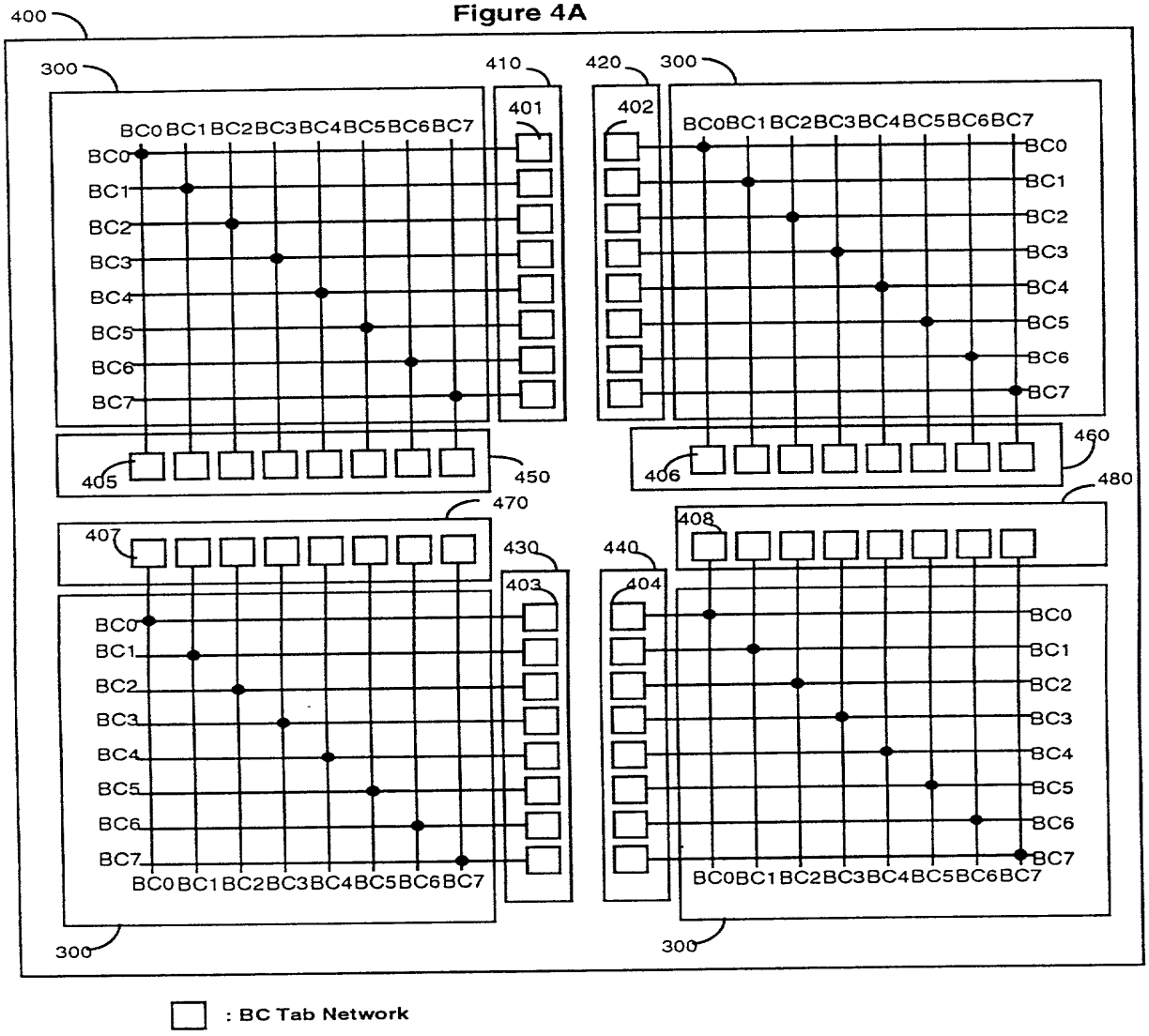

400
300
410
401
420
402
BC0 BC1 BC2 BC3 BC4 BC5 BC6 BC7
BC0
BC1
BC2
BC3
BC4
BC5
BC6
BC7
405
450
406
460
480
470
407
430
403
440
404
408
300
300
: BC Tab Network

Figure 4B

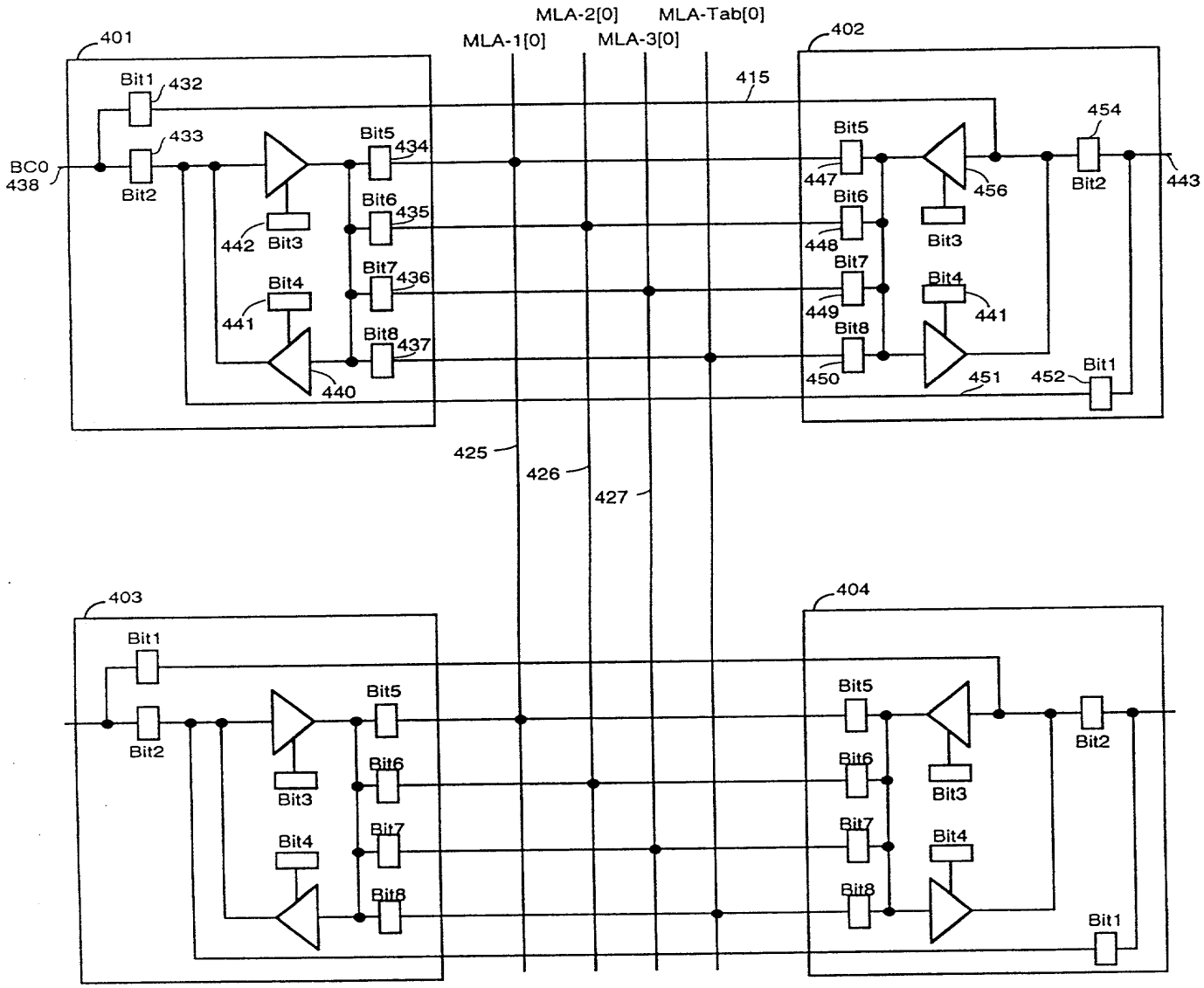

MLA-2[0]
MLA-Tab[0]
MLA-1[0]
MLA-3[0]
401
402
403
404
415
425
426
427
BC0
438
Bit1
Bit2
Bit3
Bit4
Bit5
Bit6
Bit7
Bit8
432
433
434
435
436
437
440
441
442
443
447
448
449
450
451
452
454
456

Figure 4C

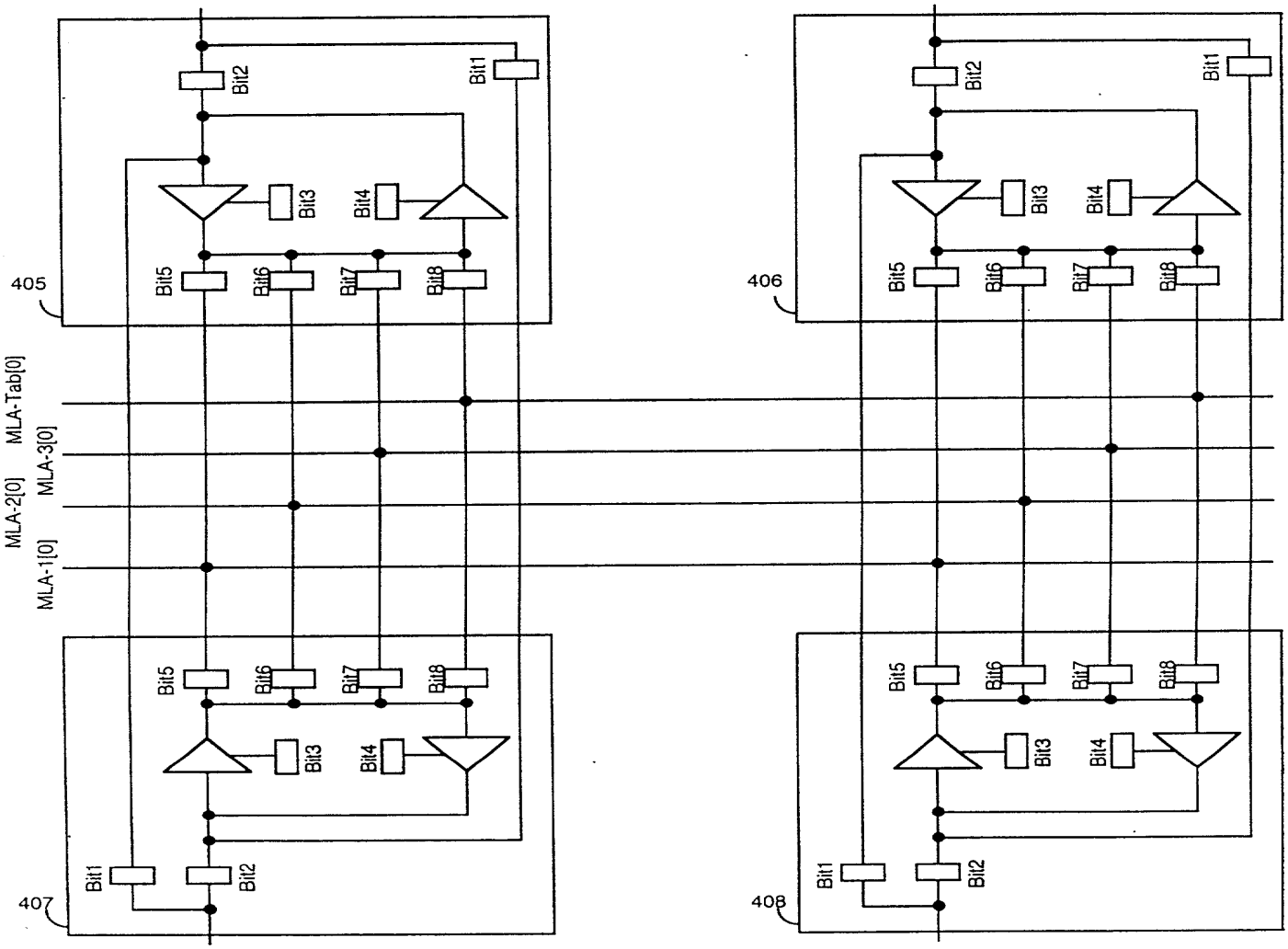

405
406
407
408
Bit1
Bit2
Bit3
Bit4
Bit5
Bit6
Bit7
Bit8
MLA-Tab[0]
MLA-3[0]
MLA-2[0]
MLA-1[0]

Figure 5

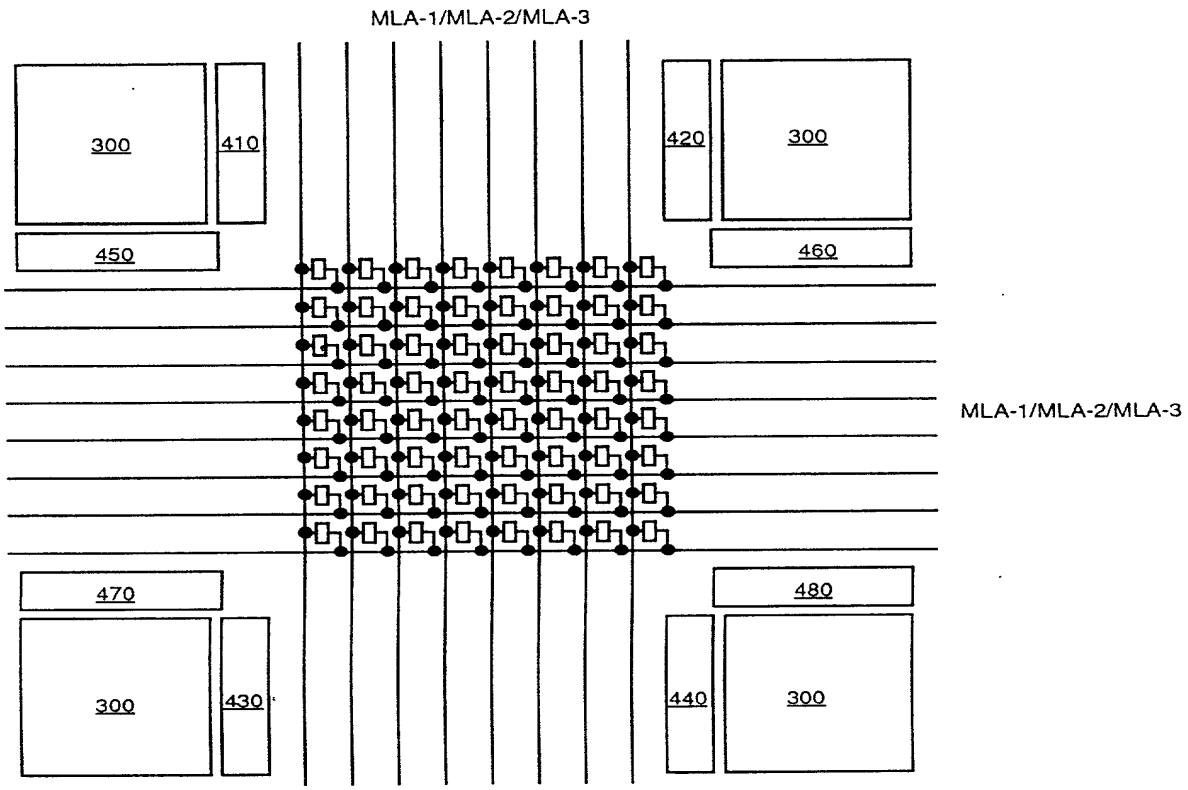

MLA-1/MLA-2/MLA-3
300
410
420
300
450
460
MLA-1/MLA-2/MLA-3
470
480
300
430
440
300

Figure 6A

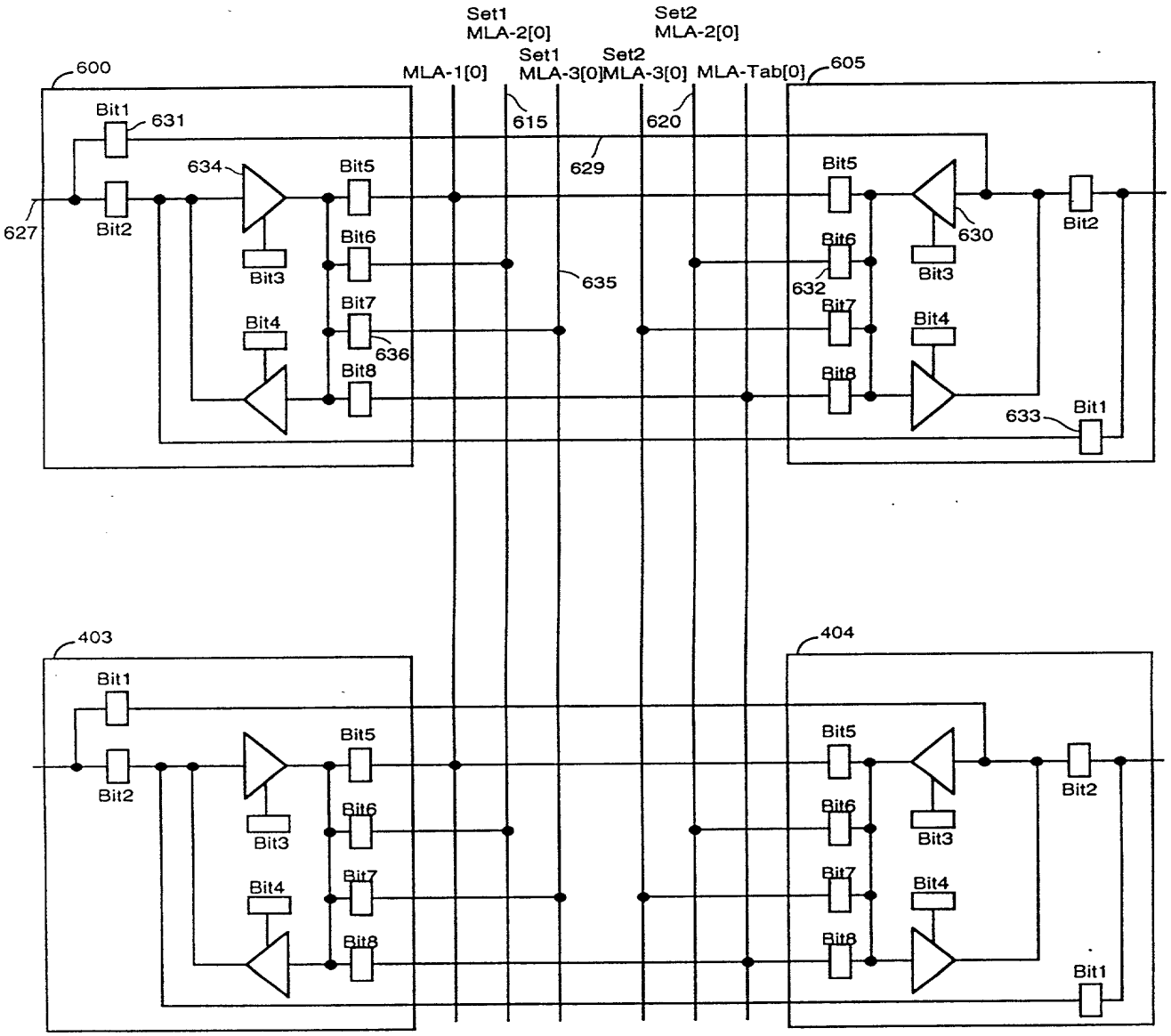

Set1
MLA-2[0]
Set2
MLA-2[0]
Set1
MLA-3[0]
Set2
MLA-3[0]
MLA-1[0]
MLA-Tab[0]
600
605
615
620
629
627
631
634
635
636
630
632
633
403
404
Bit1
Bit2
Bit3
Bit4
Bit5
Bit6
Bit7
Bit8

Figure 6B

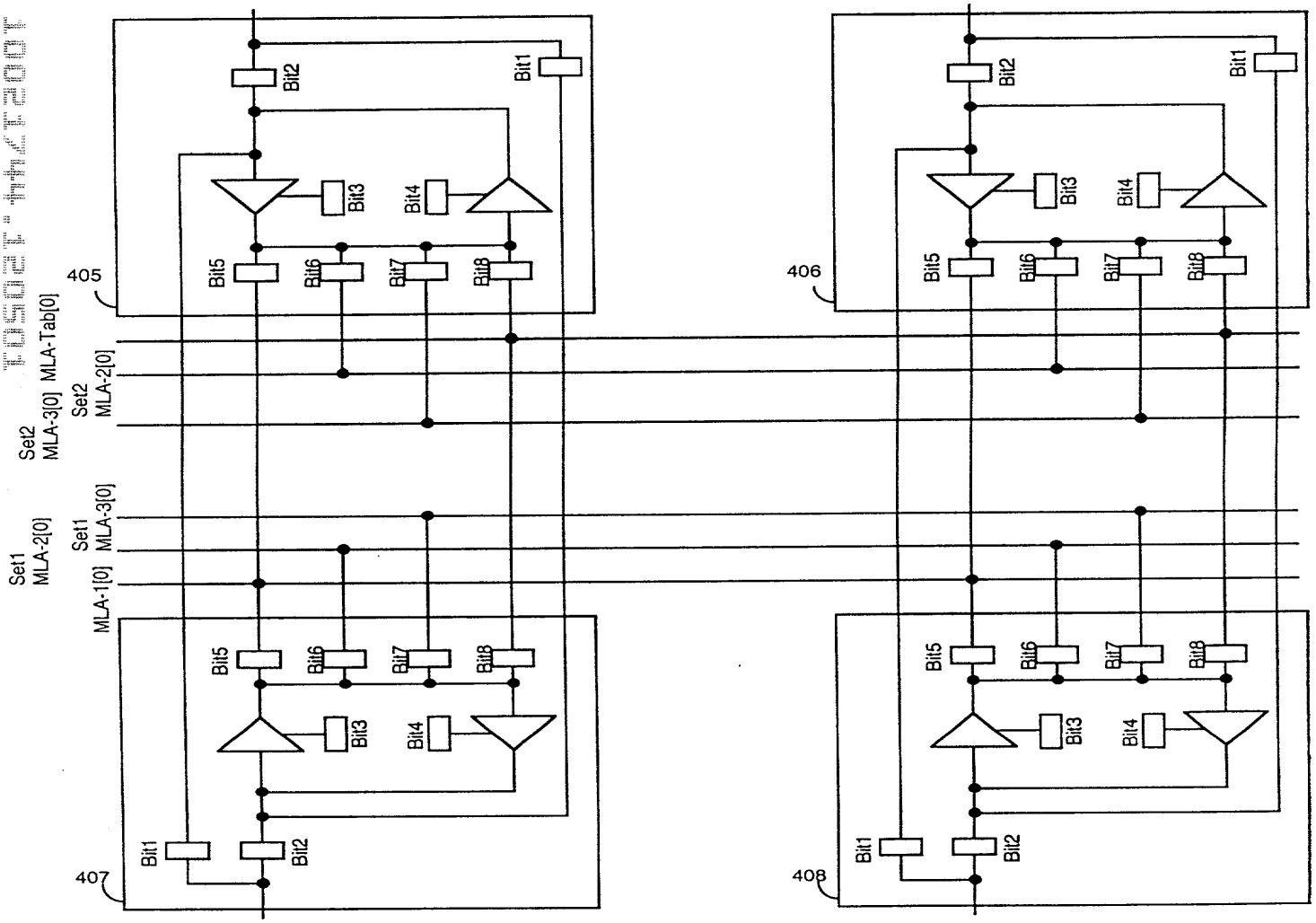

405
406
407
408
Bit1
Bit2
Bit3
Bit4
Bit5
Bit6
Bit7
Bit8
Set2 MLA-3[0]
Set2 MLA-2[0]
MLA-Tab[0]
Set1 MLA-2[0]
Set1 MLA-3[0]
MLA-1[0]

Figure 7A

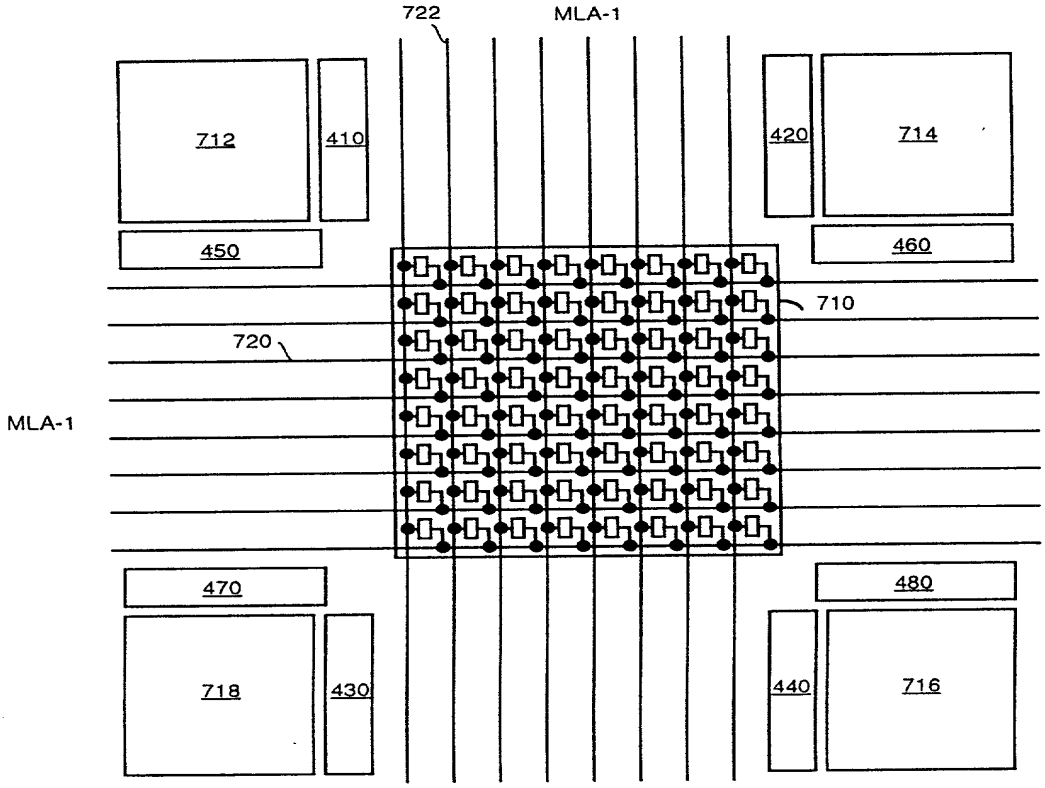

722
MLA-1
712
410
420
714
450
460
710
720
MLA-1
470
480
718
430
440
716

Figure 7B

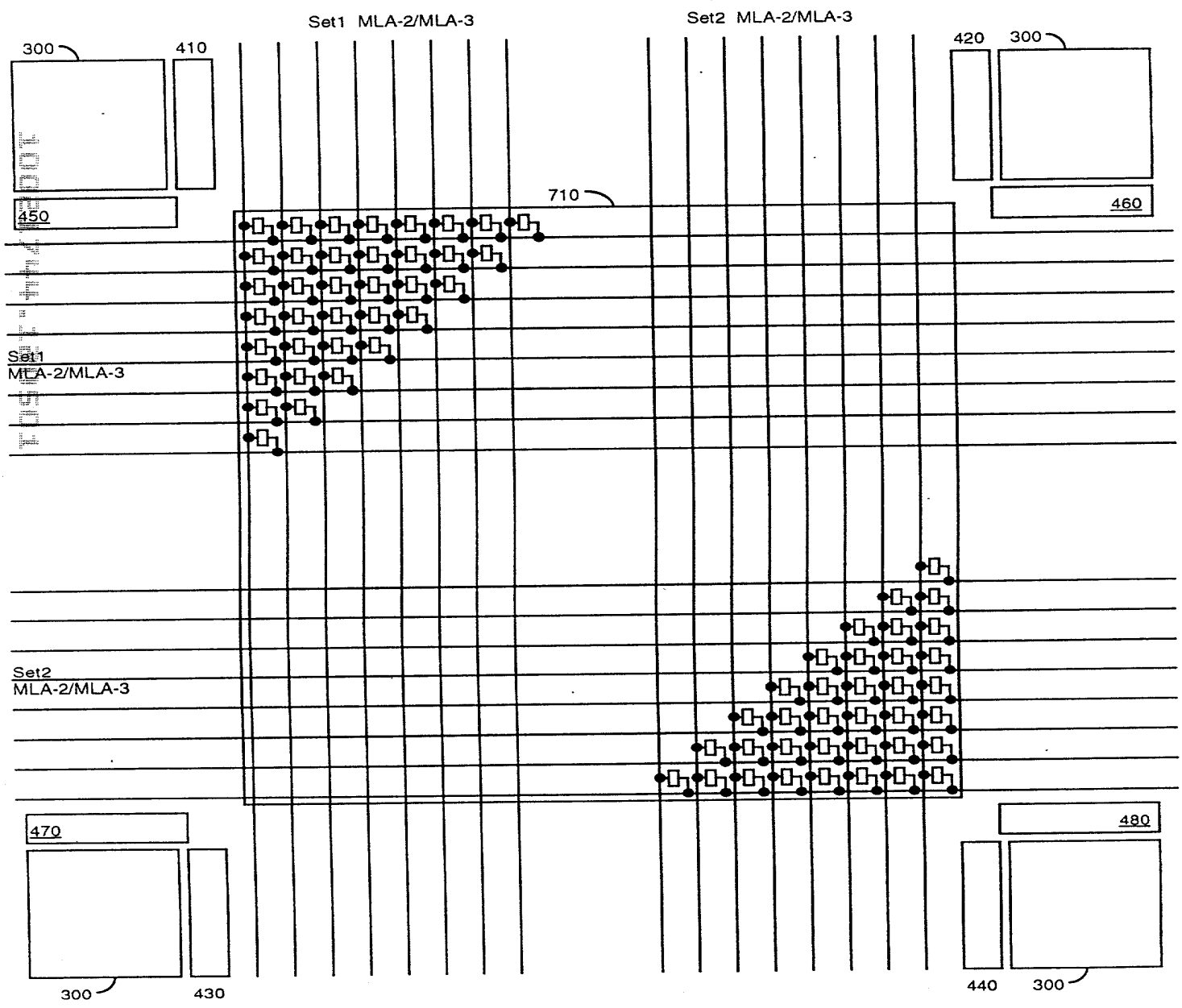

Set1 MLA-2/MLA-3
Set2 MLA-2/MLA-3
300
410
420
300
710
450
460
Set1
MLA-2/MLA-3
Set2
MLA-2/MLA-3
470
480
300
430
440
300

Figure 7C

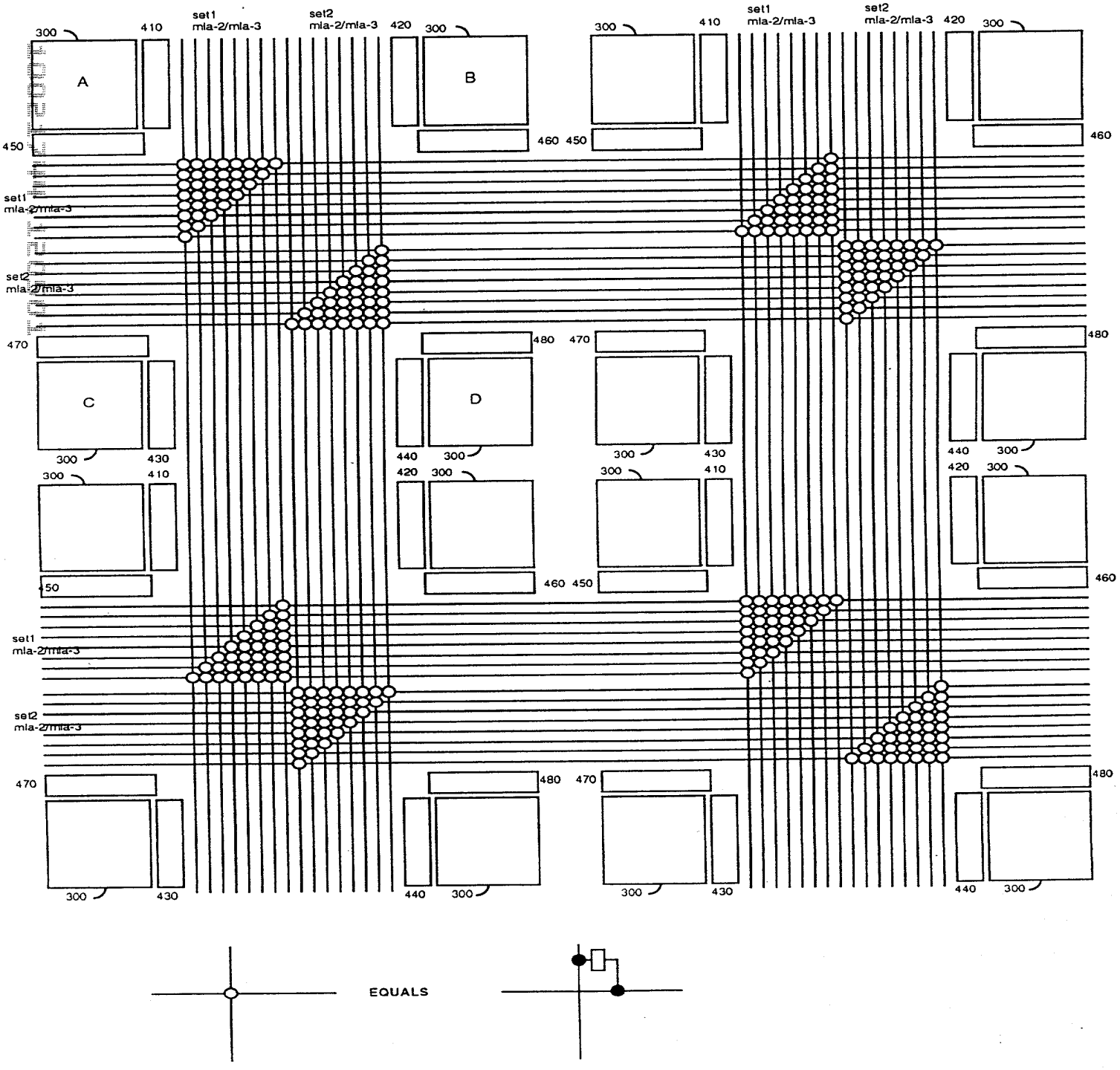
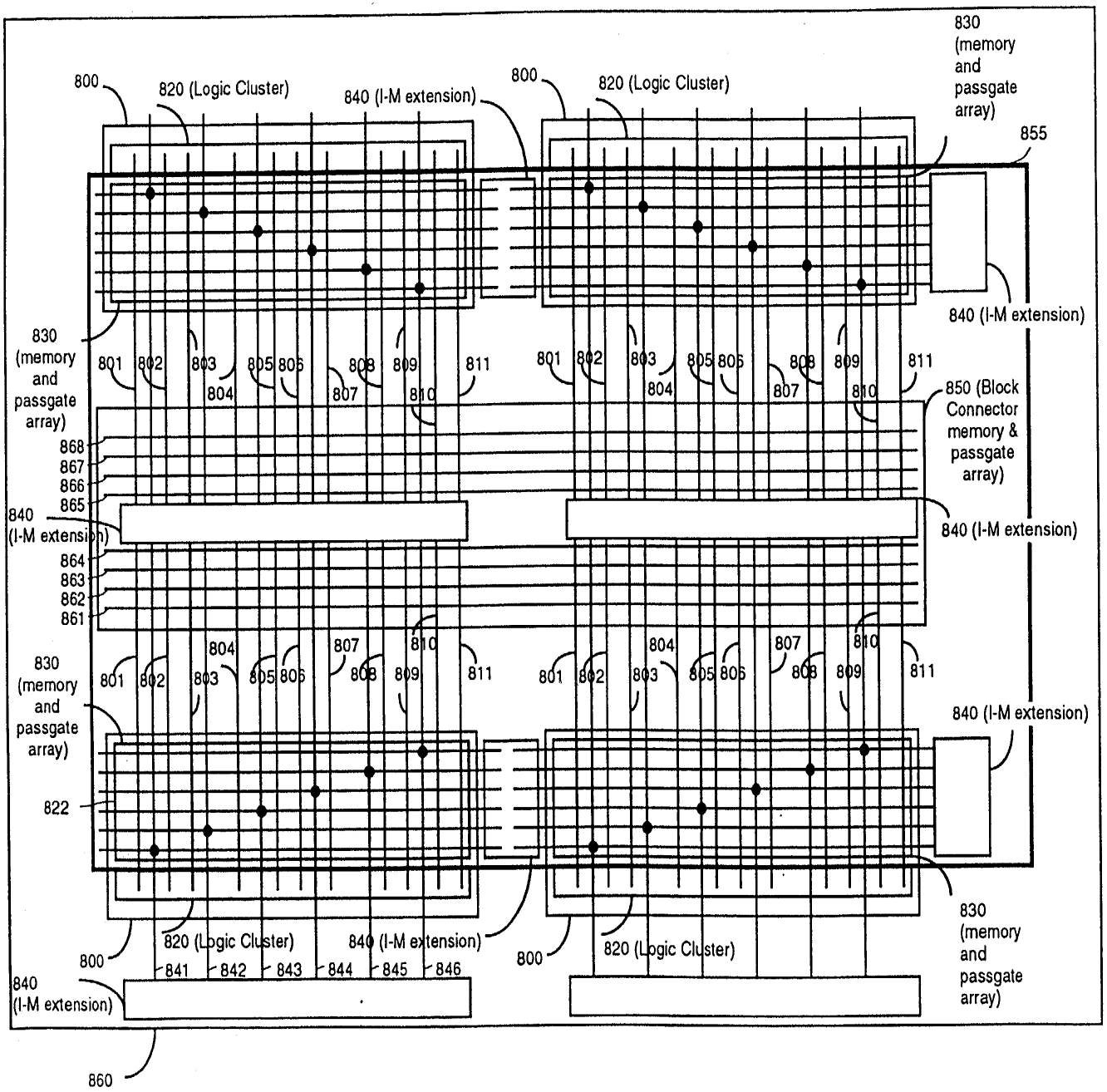

set1
mla-2/mla-3
set2
mla-2/mla-3
A
B
C
D
300
410
420
430
440
450
460
470
480
EQUALS

Figure 8A: Layout Floor Plan for a Logic Block



443

Figure 8B: Layout Floor Plan for a 2x2 Logic Block with Associated MLAs

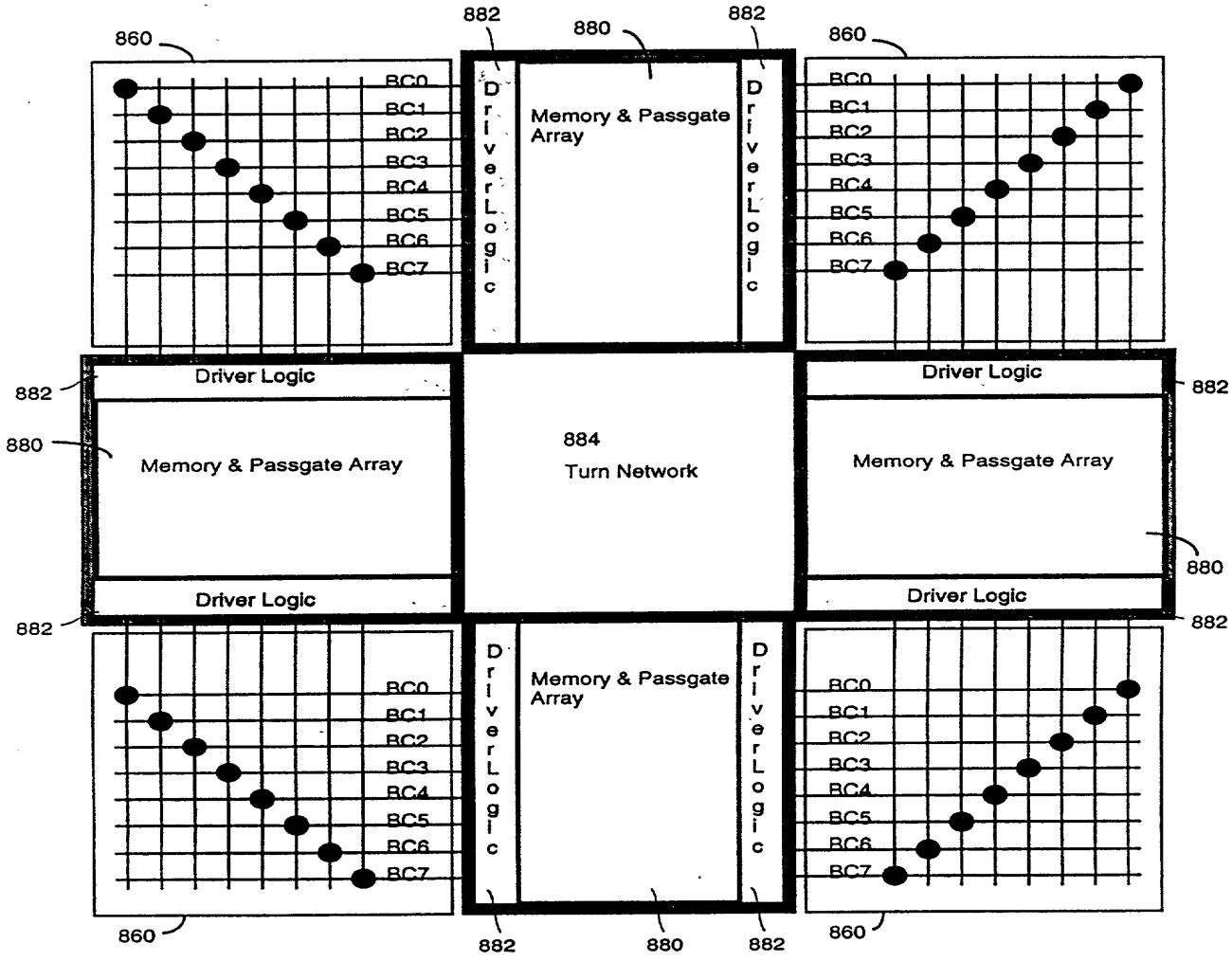
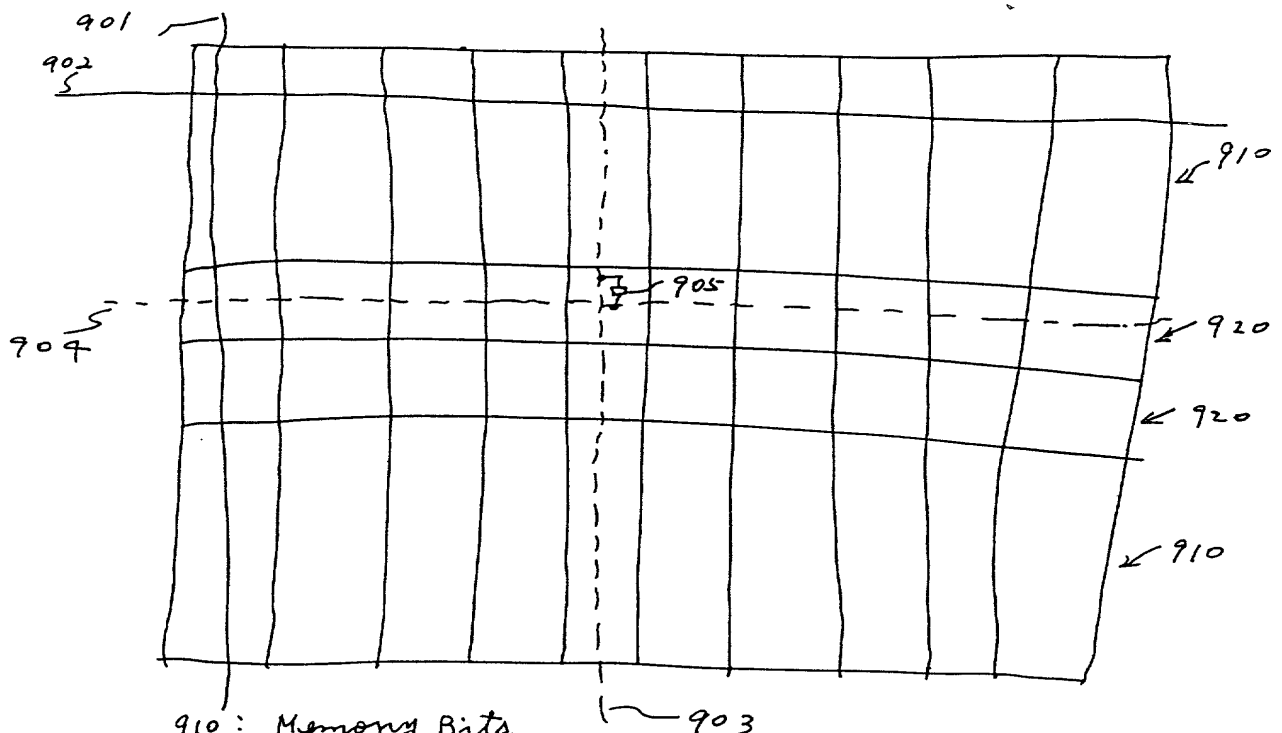


Figure 9 Example of Contiguous Memory and passgate Array Layout organization



910 : Memory Bits

920 : passgates

901, 902 : addressing lines X-Y

903, 904 : Routing Lines

905 : Program controlled passgate between 903 and 904